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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/661,545

09/15/2003

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117107

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25944 7590 12/24/2008  
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EXAMINER

FIDLER, SHELBY LEE

ART UNIT

PAPER NUMBER

2861

MAIL DATE

DELIVERY MODE

12/24/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/661,545	SAMOTO, KENJI	
	<b>Examiner</b>	<b>Art Unit</b>	
	SHELBY FIDLER	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-26 is/are allowed.
- 6) ☒ Claim(s) 27-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/23/2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Responsive Office Action***

This Office Action is responsive to Applicant's remarks and amendments filed 6/23/2008.

### ***Drawings***

Amendments to the drawings were received on 6/23/2008. These drawings are acceptable.

### ***Specification***

An amendment to the title was received on 6/23/2008. This amendment is acceptable.

### ***Election/Restrictions***

Claims 1 and 10 are allowed. The restriction requirement for Species I-II and Species IA-IB, as set forth in the Office Actions mailed 8/9/2007 and 12/7/2007, have been reconsidered in view of the allowability of claims to the elected invention pursuant to MPEP § 821.04(a). Claims 3, 6, 9, 15, 16, and 18, directed to Species II and Species IB, are no longer withdrawn from consideration because the claim(s) requires all the limitations of an allowable claim; therefore, claims 3, 6, 9, 15, 16, and 18 are hereby rejoined.

Because all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, **the restriction requirements as set forth in the Office actions mailed on 8/9/2007 and 12/7/2007 are hereby withdrawn.** In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 27 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This claim states that the at least one adjusting device comprises “at least one continuously moving and holding device which continuously moves, relative to the main body, the supporting point . . .” This seems to

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introduce an adjustment device that is always changing the position of the supporting point. Examiner notes paragraphs 24 and 42 of the instant specification, which teaches of an adjusting device comprising a cam having a radius that "finely and continuously changes in the circumferential direction." However, this disclosure does not provide sufficient teaching for an adjustment device that *continuously moves and holds* a supporting point.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As mentioned above rejection, this claim states that the at least one adjusting device comprises "at least one continuously moving and holding device which continuously moves, relative to the main body, the supporting point . . ." Further, this claim also states that the adjustment device "holds the supporting point of the at least one first supporting portion at the desired position." The combination of these limitations is very confusing, since one limitation requires that the adjustment device continuously moves the supporting point of the supporting portion, and the other limitation requires that the adjustment device holds the supporting portion at a desired position. In light of the above, Examiner is unable to determine the intended scope of the claim.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takemura et al. (US 5988784) in view of Igarashi et al. (US 6450612 B2).

**Regarding claim 28:**

**Takemura et al. disclose** an image recording apparatus (Fig. 1) comprising:

a recording head (recording head 1) that has a plurality of nozzles to record an image on a recording medium (inherent to col. 7, lines 11-15) and which has a recording surface in which the nozzles open (Fig. 3);

a carriage (carriage 3) that supports the recording head such that a clearance is present between the recording surface of the recording head supported by the carriage and the recording medium (Fig. 3), the carriage being reciprocated in a reciprocating direction intersecting a feeding direction in which the recording medium is fed and the nozzles of the recording head are arranged (col. 7, lines 53-63 & Fig. 1); and

a first adjusting device (lever 132) that adjusts the clearance present between the recording surface of the recording head supported by the carriage and the recording medium (col. 8, lines 2-12 & Figs. 3-4),

wherein the carriage comprises a plurality of supporting portions having respective supporting points where the supporting portions engage and support the recording head (inherent to Fig. 3).

**Takemura et al. do not expressly disclose** that the carriage comprises a second adjusting device that moves the supporting point of at least one of the supporting portions toward, and away from, the recording medium, and thereby rotates the recording head relative to the carriage about an axis line, so as to change an angle of the recording surface of the recording head relative to the feeding direction and thereby adjust a degree of parallelism between the recording surface of the recording head and the recording medium with respect to the feeding direction.

**However, Igarashi et al. disclose** a carriage (carriage 1) comprising a second adjusting device (adjusting lever 26) that moves a recording head supporting point (e.g. contact surface 25c), and thereby rotates the recording head (recording head 26) relative to the carriage about an axis line (the pivoting axis formed by pin 24), so as to change an angle of the recording surface of the recording head relative to the feeding direction and thereby adjust a degree of parallelism between the recording surface of the recording head and the recording medium with respect to the feeding direction (col. 4, line 62 - col. 5, line 4 & Fig. 4).

Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Takemura et al.'s carriage to include the adjusting device described by Igarashi et al., such that the second adjusting device moves the supporting points toward, and away from, the recording medium in the paper supply (as

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shown by Fig. 1 of Takemura et al.). Motivation for utilizing the second adjustment device, as provided by Igarashi et al., is to permit the adjustment of the position of one recording head in relation to a second recording head on a common carriage (col. 5, lines 34-36).

**Regarding claim 29:**

**Takemura et al. as modified by Igarashi et al. disclose** all the limitations of claim 28, and **Takemura et al. also disclose** that the image recording apparatus comprises a guide bar (guide shaft 6) that guides the carriage such that the carriage is reciprocated in the reciprocating direction (col. 7, lines 1-2), wherein the first adjusting device (26) adjusts the clearance present between the recording surface of the recording head and the recording medium by rotating the carriage about the guide bar (Figs. 3-4), and

**Igarashi et al. also disclose** that a distance between a guide bar (guide rod 2) and the recording surface of the recording head in the feeding direction is greater than a second distance between the axis line of rotation of the recording head and the recording surface of the recording head in the feeding direction (Figs. 1 and 4).

***Allowable Subject Matter***

Claims 1-9, 24-26 are allowed.

Claims 1-9 and 24-26 are allowable since the prior art of record does not disclose, or teach of a carriage for supporting a recording head comprising at least one adjusting device which moves, relative to the carriage main body, the supporting point



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of at least one first supporting portion in a moving direction substantially perpendicular to the recording surface of the recording head, without moving the supporting point of at least one second supporting portion. It is these limitations, in combination with other features and limitations of claim 1, that makes these claims allowable over the prior art of record.

Claims 10-18 are allowable since the prior art of record does not disclose, or teach of a carriage comprising at least one adjusting device which moves, relative to the carriage main body, the supporting point of at least one first supporting portion in a moving direction substantially perpendicular to the recording surface of the recording head, without moving the supporting point of at least one second supporting portion. It is these limitations, in combination with other features and limitations of claim 10, that makes these claims allowable over the prior art of record.

Claims 19-21 are allowable since the prior art of record does not disclose, or teach of a carriage for supporting a recording head comprising at least one adjusting device which moves, relative to the carriage main body, the supporting point of at least one first supporting portion in a moving direction substantially perpendicular to the recording surface of the recording head, without moving the supporting point of at least one second supporting portion. It is these limitations, in combination with other features and limitations of claim 19, that makes these claims allowable over the prior art of record.

Claims 22-23 are allowable since the prior art of record does not disclose, or teach of an image recording apparatus comprising a carriage that comprises at least

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one adjusting device which moves, relative to the carriage main body, the supporting point of at least one first supporting portion in a moving direction substantially perpendicular to the recording surface of the recording head, without moving the supporting point of at least one second supporting portion. It is these limitations, in combination with other features and limitations of claim 22, that makes these claims allowable over the prior art of record.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

***Communication with the USPTO***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHELBY FIDLER whose telephone number is (571)272-8455. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on (571) 272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LUU MATTHEW/  
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Examiner, Art Unit 2861